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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,926	11/13/2001	Joseph E. Moran	18180.0064	6290

23517 7590 05/08/2003

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EXAMINER

LE, QUE TAN

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/986,926	MORAN, JOSEPH E.	
	Examiner	Art Unit	
	Que T. Le	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-51 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) 1-15 is/are allowed.

6) ☒ Claim(s) 16, 17, 33-36 and 51 is/are rejected.

7) ☒ Claim(s) 18-32 and 37-50 is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2

4) ☐ Interview Summary (PTO-413) Paper No(s) _____

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 16 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Shoucri et al 6,208,288.

Shoucri et al disclose an imaging system comprising an imaging sensor (14) operable to receive an incident radio frequency signal (column 2) radiated and/or reflected from a scene and output a corresponding electrical signal; a processor (38) operable to receive the signal from the sensor and generate a signal representing an image of the received signal; and a display (40) operable to display the signal representing an image of the received signal. The imaging sensor includes photodiodes.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 33-36 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoucri et al 6,208,288.

As per the discussion above, although Shoucri et al fail to disclose an illuminator which provides radio frequency electromagnetic signals to illuminate the scene or target, the use of a radio frequency transmitter with a transmitting antenna as a radio frequency electromagnetic signal source for providing signal to illuminate a target or scene have been known and available in the radio wave system and/or in the radio wave antenna art. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Shoucri et al accordingly in order to provide a controlled signal source to the system. This would maximize the responsivity of the image sensor and minimize possible spurious response, of the sensor, from other unwanted signal.

Claims 1-15 are allowable over the prior art of record because the prior art fails to teach an apparatus for imaging radio frequency electromagnetic signals comprising: an optical source to output an unmodulated optical signal; an image sensor to receive the unmodulated optical signal and an incident radio frequency electromagnetic signal and to modulate both signals so as to form a modulated optical signal; a lens to focus the modulated optical from the sensor; and a photodetector to receive the focused modulated optical signal and output an electrical signal representing the focused modulated optical signal.

Claims 18-32 and 37-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

I) McKinnon 5,792,055 discloses a magnetic resonance imaging system including a radio frequency energy source and a corresponding receiver.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Que T. Le whose telephone number is (703) 308-4830.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Que T Le
Primary Examiner
Art Unit 2878